

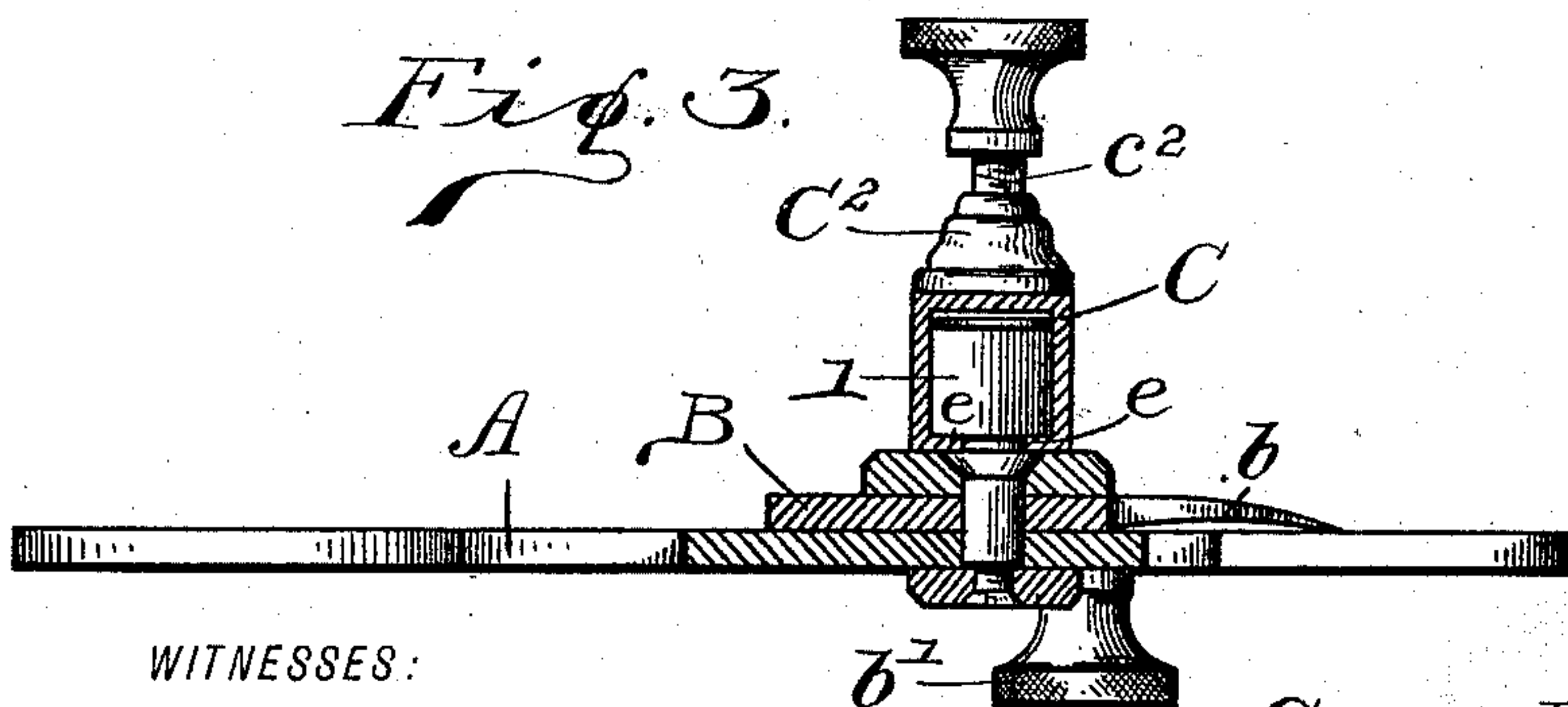
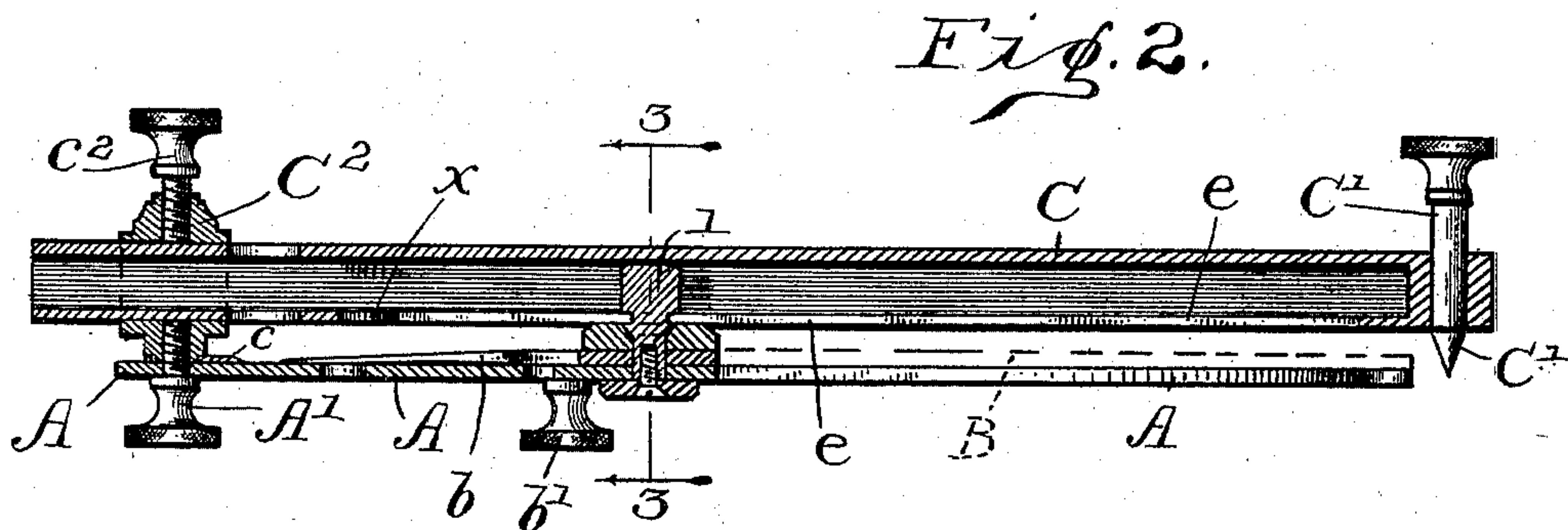
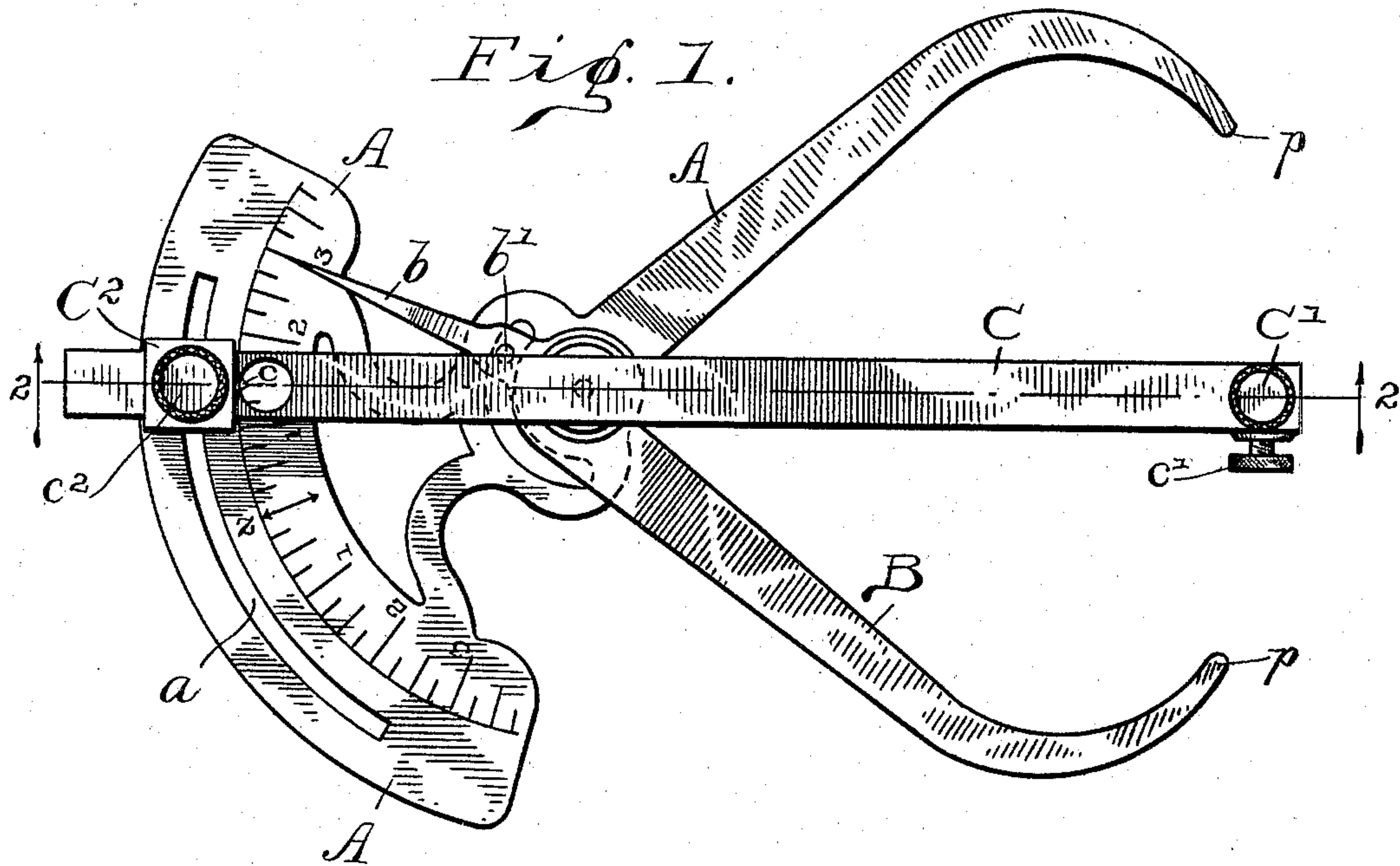
No. 608,183.

Patented Aug. 2, 1898.

G. W. DAVIS.  
CENTER FINDING REGISTER CALIPERS.

(Application filed July 15, 1897.)

(No Model.)



WITNESSES:

F. W. Koerner.  
J. A. Walsh.

INVENTOR

Greer W. Davis,

BY

Chester Bradford  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

GREER W. DAVIS, OF NEW ALBANY, INDIANA.

## CENTER-FINDING REGISTER-CALIPERS.

SPECIFICATION forming part of Letters Patent No. 608,183, dated August 2, 1898.

Application filed July 15, 1897. Serial No. 644,714. (No model.)

*To all whom it may concern:*

Be it known that I, GREER W. DAVIS, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Center-Finding Register-Calipers, of which the following is a specification.

The object of my said invention is to provide an instrument by which the centers of various bodies may be found; and it consists in an addition or attachment to the instrument known as a "register-caliper," or, in other words, the combination, with a register-caliper, of a center-finding attachment, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a top or plan view of an instrument embodying my present invention; Fig. 2, a central sectional view thereof as seen from the dotted line 2 2 in Fig. 1; and Fig. 3 a view, on an enlarged scale, as seen from the dotted line 3 3 in Fig. 2.

In said drawings the portions marked A and B represent the two members of an ordinary register-caliper, said member A being somewhat modified in construction, as will be presently described, and C the main bar of my centering attachment.

As heretofore indicated, the members A and B are of substantially an ordinary construction. The end of the member A, however, upon which the scale is shown is increased in width by so much as appears outside said scale, and in this widened portion is a slit *a*, as shown most plainly in Fig. 1. The pointer *b* of the arm B passes over the scale on the widened end of the part A and indicates or registers the size of the article being calipered in the ordinary manner, and the parts A and B are adapted to be locked together in any position desired by the thumb-screw *b'*, which passes through a curved slot in the part A and engages with the part B, preferably at or near the base of the indicator-finger *b*, as best shown in Fig. 1.

The bar C is preferably a hollow bar and is mounted on an extension of the pivot by

which the parts A and B are united. As plainly shown in Figs. 2 and 3, said pivot has a head *l*, with an annular groove or neck below said head, into which inwardly-extending edges *e* on the bar C project, as best shown in Fig. 3, and whereby said bar is held securely onto said pivot, there being a slit in the lower side of said hollow bar equal in width to the diameter of said neck. Said slit terminates at the point *x* in a circular perforation equal in diameter to the head *l* and through which said head may pass in assembling the parts. At the rear end of the bar C is a marking-point *C'*, which is preferably in the form shown, being adjustable and provided with a lock-screw *c'*. At the forward end a yoke *C<sup>2</sup>* is provided, which is secured to the member A of the caliper by means of a thumb-screw *A'*, which passes through the slit *a* and enters a suitable screw-threaded perforation in the under side of said yoke *C<sup>2</sup>*. Another thumb-screw *c<sup>2</sup>* enters said yoke from the upper side and is adapted to bear upon the upper surface of the bar C. By means of this latter thumb-screw the bar C may be locked in any position to which it may be adjusted longitudinally. Just behind this yoke *C<sup>2</sup>* when the same is in its normal position is a perforation extending entirely through the bar C, which forms a sight-hole for the user. Secured to the yoke *C<sup>2</sup>*, immediately above the member A, is a point *c*, which extends rearwardly therefrom and which may be observed through the sight-hole just described when the bar is properly adjusted, as is shown in Figs. 1 and 2.

It may be observed before proceeding further with this description that the mark on the scale at the point *z* is the initial or zero point of the caliper. The scale-marks running upwardly toward the upper end of the drawing from this zero mark or point are the indicia by which the distances between the rear ends of the caliper members are made known when the instrument is used as an outside caliper, and those below said zero mark or point are those which are used when the arms A and B pass each other, and thus come to position so that the instrument may be used as an inside caliper. The illustration being of the instrument in position for use as



an outside caliper, only the scale-marks above the zero-point are to be considered.

The operation of an instrument provided with or embodying my invention may be briefly stated as follows: The caliper members are adjusted to fit the article or body to be calipered, so that the points  $p$  just come against its surface. The indicator point or finger  $b$  will then indicate upon the scale the diameter of the body being calipered. In the illustration, Fig. 1, the instrument is shown with this indicator-finger pointing to the scale-mark "3," thus indicating that the body so being calipered is three inches in diameter. Now in order to find the center of such body without measurement or calculation it is only necessary to swing the bar  $C$  so that the point  $c$ , carried by the yoke  $C^2$ , will register with the scale-mark indicating one and one-half inches, which of course is half-way between the zero-point and the three-inch mark on the scale. The point  $C'$  will then be exactly half-way between the two points  $p$ . Assume that the center to be found is on a circular body, like the end of a piece of shafting. By tightening the set-screw  $A'$ , thus securing the yoke  $C^2$  and the caliper member  $A$  tightly together, and tightening the set-screw  $b'$ , thus securing the members  $A$  and  $B$  of the caliper firmly together, and loosening the set-screw  $c^2$ , so that the bar  $C$  may be moved back and forth through the yoke  $C^2$ , it is obvious that the point  $C'$  can be made to make a mark upon the end of the piece of shafting of which it is desired to find the center. Then by turning the instrument at substantially right angles with its former position and moving the bar  $C$  again another mark will be made, which will intersect the first mark, and this point of intersection is the center which it is desired to find.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a center-finding register-caliper, the combination, of the usual caliper-arms, pivoted together at a point between their ends, the caliper contact-points being on one side of said pivot, and one of said arms having a scale and the other an index-finger on the other side of said pivot, which index-finger is adapted to move over said scale, and a bar mounted to swing and also slide on the head of said pivot and extending from between the caliper contact-points on one side of said pivot to over the scale on the other, and an index-finger connected to said bar adjacent to said scale, whereby its position in relation thereto

may be determinately adjusted, substantially as set forth.

2. The combination, in a center-finding register-caliper, of the two caliper-arms pivoted together, one bearing a scale and the other an index-finger or pointer, and a bar slidably mounted on the pivot by which said caliper-arms are united, and provided with a centering-point at one end and an index-point at the other end, whereby it may be first adjusted to find a center and then moved longitudinally to mark such center, substantially as set forth.

3. The combination, in a center-finding register-caliper, of the usual caliper-arms pivoted together, one bearing a scale or index and the other a finger or pointer, a bar slidably mounted on the pivot which unites said arms, and a yoke through which one end of said bar passes, said yoke being provided with two fastening or set screws, by one of which it can be secured rigidly to the scale end of the caliper-arm, and by the other of which said bar may be secured to a longitudinally-adjusted position, substantially as set forth.

4. The combination, in a register-caliper, with the caliper-arms, the pivot connecting them formed with a head which projects above said arms and is formed with an annular groove or neck, a scale carried on one of said arms on the opposite side of the pivot from the caliper contact-points, and a hollow bar formed with a slot in its under side and an aperture to receive said pivot-head, the edges of which slot engage with said groove or neck therein, whereby said bar is held in position thereon and permitted both a longitudinal and a swinging movement over said scale, substantially as set forth.

5. The combination, in a register-caliper, of the caliper-arms  $A$   $B$ , the pivot uniting them provided with the head  $l$ , the bar  $C$  mounted on said pivot-head and provided with the center-finding point  $C'$ , a yoke  $C^2$  on the other end provided with a fastening or set screw  $A'$  whereby it may be secured to the scale end of the arm  $A$  and prevented from rotary movement, and with a set-screw  $c^2$  by which the bar may be clamped and prevented from longitudinal movement, all substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at New Albany, Indiana, this 10th day of July, A. D. 1897.

GREER W. DAVIS. [L. S.]

Witnesses:

GEORGE D. HIEB,  
DANIEL E. HARTWELL.